Met Office

NEWS

Most detailed picture yet of UK's future climate

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The UK's most comprehensive picture yet of how the climate could change over the next century has been launched today by Environment Secretary Michael Gove.

The UK Climate Projections 2018 (UKCP18) include:

- UK's most comprehensive projections of climate change
- Data gives most detailed picture yet of temperature, rainfall and sea level rise over next century
- Cutting-edge science to help businesses and homes plan for the future

Using the latest science from the Met Office and around the world, the UK Climate Projections 2018 illustrate a range of future climate scenarios until 2100 – showing increasing summer temperatures, more extreme weather and rising sea levels are all on the horizon and urgent international action is needed.

To help homes and businesses plan for the future, the results set out a range of possible outcomes over the next century based on different rates of greenhouse gas emissions into the atmosphere. The high emission scenario shows:

- Summer temperatures could be up to 5.4 °C hotter by 2070, while winters could be up to 4.2 °C warmer
- The chance of a summer as hot as 2018 is around 50 % by 2050
- Sea levels in London could rise by up to 1.15 metres by 2100
- Average summer rainfall could decrease by up to 47 % by 2070, while there could be up to 35 % more precipitation in winter

Sea levels are projected to rise over the 21st century and beyond under all emission scenarios – meaning we can expect to see an increase in both the frequency and magnitude of extreme water levels around the UK coastline. Even in the low emission scenario, the projections show the UK's average yearly temperature could be up to 2.3 °C higher by the end of the century.

The UK already leads the world in tackling climate change – with emissions reduced by more than 40 % since 1990. However these projections show a future we could face without further action.

UKCP18 can now be used as a tool to guide decision-making and boost resilience – whether that's through increasing flood defences, designing new infrastructure or adjusting ways of farming for drier summers.

Speaking today from the Science Museum in London, Environment Secretary Michael Gove said: "This cutting-edge science opens our eyes to the extent of the challenge we face, and shows us a future we want to avoid.

“The UK is already a global leader in tackling climate change, cutting emissions by more than 40 % since 1990 – but we must go further.

“By having this detailed picture of our changing climate, we can ensure we have the right infrastructure to cope with weather extremes, homes and businesses can adapt, and we can make decisions for the future accordingly.”

Today’s projections are the first major update of climate projections in nearly 10 years, building on the success of UKCP09 and ensuring the most up-to-date scientific evidence informs decision-making.

With climate change a global challenge, for the first time, UKCP presents international projections, allowing other nations to use this data to gauge future risks for food supply chains, or check rainfall projections for the likelihood of localised flooding.

Defra’s Chief Scientific Adviser Ian Boyd said: “Climate change will affect everybody. UKCP18 is designed to help everybody make better decisions, from those buying a house to people making large investments in infrastructure. It has been produced using state-of-the-art methods.”

Met Office Chief Scientist Stephen Belcher said: “The new science in UKCP18 enables us to move from looking at the trends associated with climate change, to describing how seasonal weather patterns will change. For example, heatwaves like the one we experienced in the summer of 2018 could be normal for the UK by mid-century.”

While the UK continues to play a leading role in limiting the causes of global warming and halting temperature rises, some changes to the climate are inevitable. Building on the UK government’s long-term plan for adapting to a changing climate, these projections will help businesses, investors, local authorities, industry and individuals plan for a wide range of possible future changes – alongside taking action to reduce the likelihood of the worst-case scenario becoming reality.

Today’s announcement also comes as the UK marks the 10th anniversary of its Climate Change Act – the world’s first legally binding legislation to tackle climate change.

Just last month the government hosted Green GB Week – a week of action highlighting the economic opportunities from tackling climate change, encouraging communities and businesses to do more.

While these projections highlight the need for further urgent action, since 1990 the UK has cut emissions by more than 40 % while growing the economy by more than two thirds, the best performance on a per person basis than any other G7 nation.

Claire Perry, Minister for Energy and Clean Growth said: “These projections from leading UK scientists build on last month’s report from climate experts, highlighting the stark reality that we must do more to tackle climate change in order to avoid devastating impacts on our health and prosperity.

“We are already leading the world in the fight against climate change but we cannot be complacent. As we look towards crucial global climate talks in Poland next week, it is clear that now, more than ever, is the time for collective and ambitious action to tackle this urgent challenge.”

While it is not possible to give a precise prediction of how weather and climate will change years into the future, UKCP18 provides a range of outcomes that capture the spread of possible future climates, so we can develop and test robust plans.

The projections will be factored into the UK’s flood adaptation planning and the Environment Agency’s advice to flood and coastal erosion risk management authorities.

Since 2010 government has invested a record £2.6 billion in flood defences, and we are on track to protect 300,000 more homes from flooding by 2021.

Chair of the Environment Agency, Emma Howard Boyd, said: “The UKCP18 projections are further evidence that we will see more extreme weather in the future – we need to prepare and adapt now, climate change impacts are already being felt with the record books being re-written.

“It is not too late to act. Working together – governments, business, and communities - we can mitigate the impacts of climate change and adapt to a different future.

“The Environment Agency cannot wall up the country, but will be at the forefront - protecting communities, building resilience, and responding to incidents.”

UKCP18 has been developed by the Met Office Hadley Centre, in partnership with Defra, BEIS, the Devolved Administrations and the Environment Agency, and has been extensively peer reviewed by an independent science panel.

People and businesses will be able to use UKCP18 to explore the types and magnitude of climate change projected for the future, while government will use the projections to inform its adaptation and mitigation planning and decision-making.

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